

STATEMENT OF ASSISTANT SECRETARY BENNETT RALEY
DEPARTMENT OF THE INTERIOR
BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
OVERSIGHT HEARING ON WATER IN THE WEST
MARCH 9, 2004

Mr. Chairman and Members of the Committee, I am Bennett Raley, Assistant Secretary for Water and Science, Department of the Interior. I am pleased to be here today to testify on western water issues and the role the Department plays in managing and enhancing these important resources.

Overview of Water in the West

As I begin my testimony, I believe it would be helpful to first step back and examine the broad scope of issues related to water in the West. As we work to resolve the many individual water problems from the Federal perspective, we must remember to do so within the context of this broader picture, continuing to rely upon important guiding principles in the process. This Administration is committed to working hard on these issues at the local level as well as with the Congress, and in particular, the Members of this Committee. We must find sensible, affordable, and balanced solutions to the West's water problems in order to provide the certainty necessary for Western communities, industries, farms, and environment to all thrive. Almost all bureaus within Interior are involved with water issues, but my testimony today will center on the Bureau of Reclamation and the U.S. Geological Survey and their proud histories, recent accomplishments, and vision for the future.

In 1888 USGS began the process of gaging the rivers of the West when it developed the methods for streamgaging at Embudo, New Mexico. In fact, the staff at USGS who began this quantification of the resource became the Irrigation Survey, and in 1902, became the Bureau of Reclamation. And the Bureau of Reclamation was there, beginning in 1902 to build water projects in support of this effort to "reclaim" the arid lands of the West.

Reclamation began constructing projects that, at the time, were considered "impossible" to construct – huge dams, hydroelectric generators, and vast networks of canals diverting water from rivers and streams to turn dry, nonproductive lands into the fertile and productive farms and ranches that continue to be the envy of the world. Reclamation dams created water supply reservoirs that allowed water to be managed. Floods were controlled and water was stored and released when needed, making electricity in the process. These facilities made irrigated agriculture possible in the West by creating a more stable supply of water that could be delivered during the prime growing season. They also provided a new source of water and power to cities and industries year round.

As the demand for water increased in these early years, so did conflict over its use, resulting in a system of water rights developed by the Western states to deal with these escalating water problems. The federal government recognizes the primacy of each state to establish

its own system of water rights and regulations. And while the primary purpose of this regulation is to insure certainty and predictability in water management, conflict continues. A common element of this conflict across the West is that available water supplies are often inadequate to meet the demand for water for farming, cities, tribes, and the environment.

The good news is that we can look back over the years and see countless water conflicts, large and small, that have been resolved by people of good will. We know that conflict can be destructive to everyone's best interest and we have, over time, found innovative solutions to these complex challenges. Quantification and understanding of the resource have been and continue to be crucial to sound management. The USGS is responsible for this scientific process through its streamgages, observation wells, statistical analyses, and hydrologic models. They do this in cooperation with 607 State, local, and Tribal agencies in the Reclamation States.

Reclamation projects continue to provide the important water supplies critical to the traditional water uses for which they were originally designed and built. However, the West has become the fastest growing area of the country. Environmental demands for water have also increased over the past several decades. Restoration of rivers and streams to support habitat for species of fish and wildlife listed as endangered or threatened by Federal laws have created even more pressure on the West's already stretched water resources. Compounding the demand picture is the current protracted period of drought conditions across the inter-mountain west that we are currently in.

Current Hydrologic Conditions

In comparing precipitation this year to the same time last year, we see substantial improvement in many areas of the West which bodes well for the upcoming water year. The dark red areas in the following Drought Monitor and USGS monthly average streamflow illustrations represents the worst conditions where drought is predicted to be most severe. As you can see, they are more dispersed and localized this season than last year. We continue to see improvement in snowpack and rainfall, even in areas where we predict shortages. In much of the West, streamflows are currently averaging near normal. The exceptions are the Great Basin, Upper and Lower Colorado, and the Rio Grande regions, where the multiyear run of below normal flows persists. Over the past month, the lowest streamflows have been observed by the USGS in the Great Salt Lake, North Platte, Salt, Upper Canadian, and Upper Cimarron basins. Overall, although it is too early to accurately predict drought conditions, we are encouraged by recent precipitation and are monitoring all areas of the West for drought conditions on a regular basis.

to replenish the snowpacks before spring, when parched soils will likely absorb much of the runoff.

Pacific Northwest Region (ID, OR, WA, Western WY & Western MT) February precipitation was near normal in most of Oregon and Idaho, but has lagged behind in the Yakima (WA), Flathead (MT), and Upper Snake (ID/WY) basins. As a whole, Oregon snowpacks are in the 125% of normal range, which promises relief for the Crooked, Malheur, Powder, and Owyhee basins where it is needed most. Despite this, new runoff forecasts should remain near to slightly below normal in most of the Region due to dry soil conditions.

Lower Colorado Region (Southern NV, AZ, Southern CA). The Lower Colorado region has been experiencing significant precipitation in recent weeks. While that will do little to mitigate the Colorado River drought, the same storms are also providing precipitation in the southern portion of the Rocky Mountains which could increase runoff volumes.

How much longer will this drought persist? How much worse might it get? Although these questions cannot be answered simply or with certainty, we know that multiyear droughts in the United States are frequently associated with long-term shifts in Pacific and Atlantic Ocean temperatures. Recent research by the USGS indicates that much of the long-term predictability of drought frequency may reside in the multidecadal behavior of the North Atlantic Ocean. Should the current warm conditions in the North Atlantic persist into the coming decade, it is possible that drought conditions resembling the continental-scale patterns of the 1930s and the 1950s are possible.

Effects of multiple years of Drought

The western U.S. has seen several large swings in climate during the past century. These swings are defined by dry spells during 1898-1904, 1946-1972, and wet periods during 1905-1924 and 1976-1998. Since 1999, the southwestern U.S., the southern and central Rockies and the western Great Plains have been gripped by persistent drought, particularly in 2002. Water year 2002 (October 2001-October 2002) was the driest of the last century in Arizona (45% of the normal from 1895-2002) and second driest for the Southwest (AZ, NM, CO, UT). Still, the four-year average from 1999-2002 (77.8% of normal) was not as dry as 1953-1956 (76.6%) or 1901-1904 (71.9%). Regardless of ranking, the ongoing drought has produced remarkable phenomena on the southwestern landscape, creating conditions that contributed to a half-a-million-acre fire on the Mogollon Rim to more than a million acres of pinyon and ponderosa tree dieoffs in Arizona and New Mexico.

In the Colorado River Basin, the four years from 2000 to 2003 rival the years 1953 through 1956, which were previously the driest four years in the Basin. If we have another similar dry year in 2004, we will surpass the driest five years in the 100-years of historic records have been kept in the Basin. While precipitation in the Basin so far this year is near normal, the dry soil conditions will reduce actual runoff to a current projection of 76% of average. In spite of the drought, the Colorado River reservoir system is still 53% full and will allow limited surplus water deliveries in the lower Basin this year.

The Klamath Basin has been a central focus for water issues in the West during the past few years. In 2001 because of extremely dry conditions and the requirements of an Endangered Species Act (ESA) Biological Opinion and Tribal trust responsibilities, the Klamath farmers were unable to receive water for agriculture for the first time in 96 years. Later season releases of 75,000 acre-feet of water were insufficient to mitigate the impacts to many of the farms and the 5 Klamath wildlife refuges in the Basin. In short, the Klamath Basin suffers from too much demand for water. Drought conditions exacerbate the situation with the only remedy being to reduce that demand.

The Middle Rio Grande has been under drought conditions since 1996, and the Rio Grande Compact storage restrictions, engaged in 2002, continue to greatly impact storage capability for farmers. Heron, El Vado, and Elephant Butte reservoirs averaged 83 percent capacity in 1999. Today, the three reservoirs average about 15 percent capacity. The Six Middle Rio Grande Pueblos, Middle Rio Grande Conservancy District, Elephant Butte Irrigation District, El Paso Water Improvement District #1, and Mexico all received full water supplies in 1999. Today, the Six Middle Rio Grande Pueblos are on a strict rotation schedule. The Middle Rio Grande Conservancy District is also on a strict rotation schedule and anticipates non-Indian farmers being able to irrigate through mid-July. The other water Districts are projected to receive a 59 percent supply.

Water 2025: Preventing Crisis and Conflict in the West

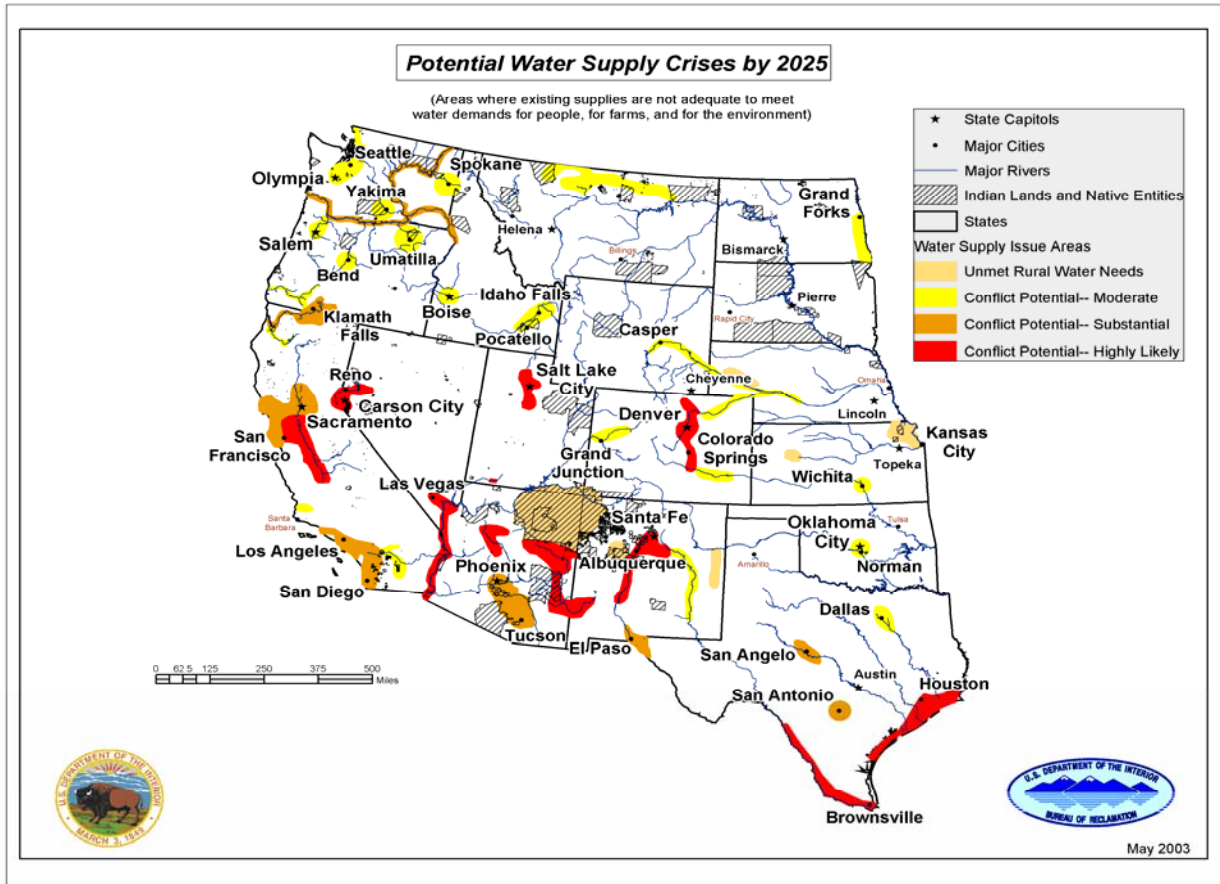
Secretary of the Interior Gale Norton has made Water 2025 a key focus for the Department of the Interior because water truly is the “lifeblood” of the American West.

Water 2025 is based on the reality that the economic, social, and environmental health of the West is important to the people of this nation. Water 2025 is also based on the *reality that the demands for water in many basins of the West exceed the available supply even in normal years.*

These realities, when combined with the fact that the West is home to some of the fastest growing communities in the nation, guarantee that water supply-related crises will become more frequent if we do not take action now. Unlike the past century, when water crises were intense, but typically occurred in drought years and only affected resources and economies of local and regional importance, *water supply-related crises in this century will affect economies and resources of national and international importance unless we take action now.*

Water 2025 has been “road-tested” with 3000 people attending one of ten meetings throughout the West. The bottom line is that, while there was a significant debate over what should or should not be added to Water 2025, almost all participants endorsed Water 2025 as an approach that will unite, not divide, very divergent interests.

Our “hot spots map” shows where we believe the next crises and conflict over water exist, and identifies the areas where we should concentrate our resources.



The red areas are where conflict potential over water is highly likely; orange areas where conflict potential is substantial; and yellow areas where conflict potential is moderate. Reclamation will periodically update these designations and use it to help prioritize areas of the West where *Water 2025* could be implemented to prevent conflict and crises.

With the support of Congress in the FY 2004 Budget, Secretary Norton has moved forward with *Water 2025* with the announcement of the Secretary's *Water 2025 Challenge Grants*. These grants will be made throughout the West in the summer of 2004 on a cost-share basis for projects that make real progress towards avoiding water crises in the West.

"I have initiated what I call the Four C's as the cornerstone of my tenure: Consultation, Communication, and Cooperation, all in the service of Conservation. At the heart of the Four C's is the belief that for conservation to be successful, the government must involve the people who live and work on the land." – **Gale A. Norton, Secretary of the Interior.**

Water 2025: Preventing Crisis and Conflict in the West.

Water 2025 is based on realities that will shape, if not control, policy level water supply decisions over the next 25 years.

Water 2025 Realities

- 1. Explosive Population growth is occurring in some of the driest areas of the West. Likewise, there is a substantial demand for water to attain the goals of the Endangered Species Act or environmental restoration programs in some of these arid regions.*
- 2. Over the next 25 years, the demand for water for people, tribes, farms, and the environment will exceed the available supply in many basins in the West.*
- 3. If we are to meet the demand for additional water supplies in the future, existing water supply facilities must be maintained and modernized so they will continue to provide the water and power that is a part of the existing inventory. Otherwise, we will be moving backwards instead of forwards.*
- 4. Unlike the last century, water supply crises in the next 25 years in the West will not be drought-driven and limited to local and regional impacts. Unless we act now, water supply crises will occur in normal years and affect economies and resources of national and international significance.*
- 5. Most solutions to water supply crises, regardless of whether they are institutional in nature or include new or additional infrastructure, take years, if not decades to implement. Endless process, without actual progress towards implementing solutions that work, simply guarantees that there will be fewer options to deal with the inevitable crises.*
- 6. In some areas, the development of alternative water supplies such as brackish and seawater desalinization can reduce the pressure on surface water supplies.*
- 7. There is no broad support for extremist positions on water policy that would destroy irrigated agriculture, ignore tribal water needs, prevent economic growth and development, or fail to protect the environment. The question then becomes one of how to provide for the shift of water between competing uses. At a conceptual level the debate is between the use of governmental authority to redefine rights or reallocate the use of water, or the use of market-based mechanisms to meet unmet or emerging needs.*

Water 2025 is based on principles that must be recognized if we are to minimize or avoid water supply related crises.

Water 2025 Principles

- 1. Solutions must be based on and recognize interstate compacts and United States Supreme Court decrees that allocate water among states, water rights established under state and federal law, tribal water rights, and contracts for the use of water.*
- 2. The implementation of water monitoring, measuring, conservation and management technologies will provide some of the most cost-effective gains in our ability to meet the demand for water in the future.*
- 3. The attainment of economic, social, and environmental goals relating to water supply requires long-term stability that is more likely to be provided by collaborative solutions than by litigation.*
- 4. Market-based tools that rely on willing buyer – willing seller transactions are far more likely to provide stability and avoid conflict than are regulatory or litigation-based alternatives for meeting unmet and emerging needs for water.*

Water 2025 proposes not rhetoric, but pragmatic, reality-based tools that have been tested in the crucible of the real world.

Water 2025 Tools

- 1. Water conservation and efficiency.** The increased use of simple tools like water measurement structures, automated control structures, and computer-based system monitoring can allow water users to either stretch their water supplies further or make part of their supplies available on a willing seller-willing buyer basis for otherwise unmet demands.*
- 2. Markets.** Explosive population growth and the emergence of the demand for water for environmental restoration and attainment of the goals of the Endangered Species Act will typically define the extent and severity of water supply-related conflicts. The experience of the Klamath basin in 2001 provides an example of the consequences of an attempt to use regulatory mechanisms to reallocate water from existing uses to emerging needs. The value of market-based approaches as an alternative is proven by the success of CalFed, the new Klamath water bank, the operation of the Central Valley Project in California, the ag-to-urban transfers in Southern California, and the 50 year-old water market in Northern Colorado.*
- 3. Collaboration.** When it comes to water, people, farms, and the environment all need certainty in order to plan for and meet long-term objectives. Endless litigation rarely, if ever, achieves this goal. In particular, long-term or multi-year Biological Opinions under the Endangered Species Act provide the predictability that is necessary in order to make the rational decisions and investments that are required to provide water for people, water for farms, and water for the environment.*

4. Technology. *In some areas, demands on limited surface water supplies can be reduced through the development of alternative water supplies. A range of alternative water supply technologies exist, including desalinization, advanced water treatment and reuse, and water recycling. Interior will seek to facilitate the implementation of desalination and advanced water treatment through improved interagency coordination of research and focused investment to areas most needing planning support.*

5. System Optimization. *While it is clear that in some regions it will be necessary to develop new surface water supplies and infrastructure, the fiscal, legal, and political hurdles to the development of significant new supplies make it imperative that existing water supply infrastructure be fully utilized within the framework of existing treaties, interstate compacts, water rights, and contracts.*

FY 2004

As a first step in implementing *Water 2025*, Secretary Norton has announced the creation of a Challenge Grant Program. The request for proposals is now available on the *Water 2025* website (www.doi.gov/water2025). We have identified for this program \$4.0 million of the \$8.4 million appropriated in Fiscal Year 2004 for the Western Water Initiative. The Western Water Initiative is the first step toward *Water 2025*. This program targets irrigation and water districts in the West who are willing to leverage their money and resources with the Federal government on projects that make more efficient and effective use of existing water supplies through water conservation, efficiency and water markets.

Projects will be selected through a competitive process that focuses on achieving the outcomes identified in *Water 2025*, specifically conservation, efficiency, and water marketing.. We will accept proposals until April 8 of this year and award the grants by July, with implementation commencing around the first of August.

A grant program on water treatment is also underway in FY 2004. Wastewater, salty and other impaired water can be purified to increase their utility. *Water 2025's* goal is to significantly aid technological advances and identify new supplies. Reclamation can facilitate research to reduce the high costs that slow adoption of new water treatment technologies, such as desalination technologies. Proposals that demonstrate ways to help avoid crises and conflict over water supplies in the West will be selected through the current competitive process in the Reclamation Science and Technology Program.

The Bureau of Reclamation is also collaborating with the Middle Rio Grande Conservancy District [\$1.750 million] to identify water conservation efficiency improvements projects, such as flow measurement devices, data collection and water management stations, diversion dam rehabilitation, and other tools identified in *Water 2025*.

Rounding out the FY 2004 Western Water Initiative funding provided by the Congress, the Bureau of Reclamation is working closely with Ohio View Consortium [\$1.0 million] and

Desert Research Institute [\$1.0 million] to match their capabilities with the need for new technology to address future water supply problems in the West.

FY 2005

In keeping with the spirit of Secretary Norton's 4C's - Cooperation, Communication and Consultation in the service of Conservation, Interior agencies, in conjunction with the Department of Agriculture, plan to closely monitor the western basins experiencing drought conditions. We will also continue to coordinate existing programs with other federal agencies, such as the Corps of Engineers and Natural Resources Conservation Service.

Other activities highlighted in the FY 2005 budget request that are designed to address the water problems in the West are as follows:

Klamath Project in Oregon and California (\$25.0 million). This funding would provide for on-the-ground initiatives to improve water supplies to meet agricultural, tribal, wildlife refuge, and environmental needs in the Klamath Basin and to improve fish passage and habitat. This is part of a \$67.2 million Department of the Interior request spread across several bureaus, focused on making immediate on-the-ground impacts. The Department, in consultation with the Klamath River Basin Federal Working Group, is developing a long-term resolution to conflict in the Basin that will provide water to farmers and tribes while protecting and enhancing the health of fish populations, and meeting other water needs, such as those of the adjacent National Wildlife Refuge.

Middle Rio Grande (\$18.0 million). This request continues funding in support of the Endangered Species Collaborative Program. In addition, the request continues funding for acquiring supplemental water, channel maintenance, and pursuing government-to-government consultations with Pueblos and Tribes. Finally, the funding would continue efforts that support the protection and contribute to the recovery of the Rio Grande silvery minnow and southwestern willow flycatcher.

Animas-La Plata in Colorado and New Mexico (\$52.0 million). This request includes \$52.0 million for the continued construction of Ridges Basin Dam and Durango Pumping Plant and pre-construction activities for Navajo Nation Municipal Pipeline, Ridges Basin Inlet Conduit, utility relocations, and project support activities.

Columbia-Snake River Salmon Recovery in Idaho, Oregon, Montana, and Washington (\$17.5 million) addresses the implementation of Reasonable and Prudent Alternatives (RPAs) included in two Biological Opinions issued in December 2000. The FY 2005 funding would address significantly increased regional coordination, off-site mitigation activities in selected sub-basins to offset hydrosystem impacts, and continue research, monitoring and evaluation efforts.

Rural Water (\$67.5 million). The funding request for rural water projects emphasizes a commitment to completing ongoing municipal, rural, and industrial systems. Funding is included for Mni Wiconi, Mid-Dakota, Garrison, Lewis and Clark and Perkins County

projects. Funding required for Mid-Dakota is sufficient to complete the project. I am pleased to announce that the Department's Rural Water supply program legislative proposal was sent to Congress on March 3. The program established under this proposed legislation will allow Reclamation, the Department, and the Administration to provide a much needed and demanded service to the American people in the Reclamation States, while exercising the type of project oversight and development that has been lacking in some of the individually authorized projects we have seen in the past.

Hydropower Direct Financing (\$30.0 million). The FY 2005 budget proposes to finance the costs of operation and maintenance of certain Reclamation hydropower facilities directly from receipts collected by the Western Area Power Administration from the sale of electricity.

Safety of Dams (\$64.0 million). The safety and reliability of Reclamation dams is one of Reclamation's highest priorities. Approximately 50 percent of Reclamation's dams were built between 1900 and 1950, and 90 percent of those dams were built before the advent of current state-of-the-art foundation treatment, and before filter techniques were incorporated in embankment dams to control seepage.

Central Valley Project Restoration Fund (\$54.7 million) this request includes funds for the CVP Restoration Fund and is expected to be offset by discretionary receipts totaling \$46.4 million collected from project beneficiaries under provisions of Section 3407(d) of the Act. These funds will be used for habitat restoration, improvement and acquisition, and other fish and wildlife restoration activities in the Central Valley Project area of California. The requested level and the amount of offsets are determined by formulas contained in the 1992 authorizing legislation.

California Bay-Delta Restoration. (\$15.0 million) The funds would be used consistent with a commitment to find long-term solutions in improving water quality; habitat and ecological functions; and water supply reliability; while reducing the risk of catastrophic breaching of Delta levees.

In addition to these activities in Reclamation's FY 2005 budget, the USGS is proposing two new budget initiatives related to Water 2025. The first is a \$1 million water availability and use initiative focusing on water data and information needed to help communities address critical and increasingly complex water-availability issues. This initiative proposes work over a 5-year period, based on the USGS Future Science Directions and the USGS Report to Congress, *Concepts for National Assessment of Water Availability and Use*. The second is a \$2.8 million initiative focused on improving the understanding of two endangered sucker species in Upper Klamath Lake and how their survival is affected by changes in water quality, natural climatic cycles, lake-level management, and habitat for spawning and rearing.

The FY 2005 budget for the USGS Water Program proposes \$202.7 million to continue water resources work. This includes an increase of \$1.4 million for research into the water

quality in the Klamath Basin. In addition, \$1 million is proposed for implementation of a new five-year initiative concerned with water availability and use as part of Water 2025.

In FY 2005, the USGS will focus research on the Klamath River basin in southern Oregon and northern California, where water supply is currently inadequate to meet demands for irrigating 250,000 acres of farmland, sustaining habitat in several critical wildlife refuges, and maintaining in-stream flows and lake levels in order to protect three threatened and endangered fish species. In the Klamath Basin, where water is in extremely short supply, it is particularly important that seasonal runoff forecasts are very accurate. In this regard, USGS is working closely with the Natural Resources Conservation Service and the Bureau of Reclamation, to improve seasonal flow forecasts by incorporating ground-water conditions into the forecast model. The FY 2005 budget requests \$1.4 million dedicated to improving the quality and quantity of water entering Agency and Upper Klamath Lakes, to model hydrodynamics and heat transport in the Lakes, and to monitor nutrient loadings and algal ecology. An additional \$1.4 million is requested for biological studies to focus on the ecology of two endangered sucker species in Upper Klamath Lake, Oregon. This information will improve the forecasts of resource-management decisions being made by Reclamation, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Klamath Tribes. The total USGS FY 2005 request for Klamath studies is \$3.7 million, a \$2.8 million increase over 2004.

The total Administration request for Klamath is \$105 million, including \$67.2 million contributed by Interior Bureaus.

In related studies with California's North Coast Regional Water Quality Control Board, the USGS has documented the data needs for water-quality models of the Klamath River between Upper Klamath Lake and the Pacific Ocean. The models would be used to develop the total maximum daily load (TMDLs) for temperature, nutrients, and dissolved oxygen, the role of natural and anthropogenic source loadings for temperature, dissolved oxygen, and nutrients. A key consideration is protection of fall-run salmon, including the endangered Coho, in the Lower Klamath River.

There is a heightened need for using science and technology to understand and manage our Nation's water resources. The USGS and Reclamation will build upon their partnership on the Watershed and River System Management Program. This program has already resulted in models that improve the efficiency of water system operations. The USGS provides the science related to atmospheric and watershed processes, while the Reclamation provides the engineering expertise related to river, reservoir and irrigation management. This partnership has resulted in a coupling of USGS watershed models with Reclamation operations models.

The FY 2005 budget requests I just highlighted demonstrate the Department's commitment in meeting the water and power needs of the West in a fiscally responsible manner..

Finally, I would like to end my testimony by sharing with the Committee some of our accomplishments in addressing the water supply problems in the West.

On October 16th, 2003, Secretary Norton celebrated the signing of the historic Colorado River Water Delivery Agreement with representatives of all of the Colorado River basin states, the San Diego County Water Authority, Imperial Irrigation District, the Metropolitan Water District of Southern California, and the Coachella Valley Water District. This Agreement marked the resolution of a 75 year old dispute over the allocation of California's share of the Colorado River. California has agreed to take specific, incremental steps that will reduce its over-reliance on the Colorado River water in the next 14 years, allowing the state to live within its authorized annual share of 4.4 million acre-feet. The agreement allows the six other Colorado River Basin States to protect their ability to use their Colorado River allocations to meet future needs.

In the lower Colorado River Basin, despite the fourth consecutive year of substantial drought on the Colorado River in 2003, Reclamation delivered Arizona, California and Nevada their full basic annual apportionment of river water. The United States' obligation to deliver 1.5 million acre-feet of Colorado River water to Mexico was also met. Since the completion of Hoover Dam in 1935, Reclamation has delivered to each of these states and to Mexico, at a minimum, their basic annual apportionment of Colorado River water, despite several periodic and severe droughts.

Many projects, such as the Central Valley Project (CVP) in California, are operated to address different demands simultaneously. For example, in 2003, the CVP made available about 7,200,000 acre-feet of water for agriculture, 540,000 acre-feet for municipal and industrial water users, 400,000 acre-feet for wildlife refuges, and 800,000 acre-feet to protect and restore the San Francisco Bay-Delta fishery, as required by the Central Valley Project Improvement Act.

The Department negotiated two agreements (Conservation Water Agreement and the Emergency Drought Water Agreement) with the State of New Mexico and other entities, and acquired about 90,000 acre feet of water from willing contractors to provide supplemental water flows for the endangered Rio Grande silvery minnow.

Interior agencies work with other Federal agencies, and State, and local governments, partners, and stakeholders, to determine innovative ways to address unmet demands.

- In 2003, Reclamation rented storage water and natural flows from willing irrigation districts and individuals in the Snake, Boise, Payette, Lemhi and John Day Basins of Idaho and Oregon. This resulted in a win-win situation—irrigators received economic support in return for the water they provided to enhance river flows for endangered salmon.
- Reclamation developed streamflow simulation models and water quality simulation models for the Weber River System in the Ogden, Utah area, and the Ashley and Brush Creeks which are tributary to the Green and Colorado Rivers. These models work

together to enable water managers to simulate and analyze proposed water management scenarios to better meet existing water demands and meet future increased demands.

Reclamation is also exploring ways to enhance the current water supply.

- With cost-sharing from the Colorado River Basin States, Reclamation has expended \$45 million on salinity control projects during 2001-2003. The cost effectiveness of these projects has improved dramatically to about \$30/year/ton of salt controlled. This is nearly a three-fold reduction in cost per ton of salt removed compared to earlier projects at \$80 per ton. It is estimated that these projects will control nearly 500,000 tons/year of salt from reaching the Colorado River.
- Working with the State of Utah, local governments, and water districts, Reclamation has reduced the total phosphorus loading into Deer Creek Reservoir by more than 50 percent. The largest source of drinking water to the Wasatch Front from the Provo River was very contaminated and Deer Creek Reservoir was dominated by toxin, taste, and odor producing blue-green algae. The 1994 completion of Jordanelle Dam provided an opportunity to clean up some of the problems. For the past 2 years, even with major drought and water shortages, Deer Creek Reservoir has provided the cleanest water to the Wasatch Front since it was constructed.
- Throughout 2003, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and Bureau of Indian Affairs, under the direction of the Department of the Interior, helped balance the needs of water users and endangered species that depend on the Rio Grande for their survival. The two endangered species are the Rio Grande silvery minnow and the Southwestern willow flycatcher. Efforts to preserve and protect the species occurred in the following areas: water acquisition and management, habitat restoration, listed species population management, fish passage, and water quality improvement.
- In 2003, Reclamation, the U.S. Fish and Wildlife Service and Bureau of Indian Affairs continued participation in the Middle Rio Grande Endangered Species Act Collaborative Program, and cooperation on ESA, National Environmental Policy Act and other environmental compliance requirements. These agencies continued government-to-government consultations with the pueblos and tribes living in the Rio Grande Basin.
- Reclamation and Collaborative Program participants are restoring the Rio Grande to a wider, shallower channel with a sandy bottom, and removing invasive plant species from the bosque and replacing them with cottonwoods and willows to benefit the endangered species. Seven projects covering 415 acres have been completed, and an additional seven projects covering 413 acres will soon be under way. Four pueblos are participating in these restoration efforts.
- Reclamation has supported activities aimed at increasing the population of the silvery minnow including: developing a master plan for management, increasing the numbers of silvery minnow through captive breeding and rearing (propagation) and re-introducing (augmentation) silvery minnows into the Rio Grande, monitoring silvery minnow

populations in the wild, and rescuing fish from dry river reaches and moving them to other parts of the river when appropriate.

- Reclamation, the Army Corps of Engineers, and the Bonneville Power Administration submitted their first “check-in” report to NOAA Fisheries on October 1, 2003, as required by the Federal Columbia River Power System Biological Opinion of 2000. The three agencies stated that the overall implementation of the Biological Opinion (BO) is on track and that the status of the Columbia River basin salmon and steelhead listed under the Endangered Species Act is improved over the conditions prior to the BO three years ago. The 2003 Check-In Report acknowledges that good ocean conditions are a major contributor to the good returns, but improved fish passage at Columbia and Snake River dams and better habitat, hatchery and harvest practices are also contributing. Reclamation’s primary contribution to this success has been working with private landowners to remove or modify in-stream barriers to migrating fish, such as temporary gravel diversion dams.
- Reclamation completed the A Canal fish screen on the Klamath Project in southern Oregon. The fish screen facility is a key requirement of the U.S. Fish and Wildlife Service’s Biological Opinion to recover endangered Shortnose and Lost River Suckers in Upper Klamath Lake. During a typical irrigation season, the A Canal transports nearly 250,000 acre-feet of irrigation water used on Klamath Project farms. Without these fish screens, water deliveries could have been susceptible to cutbacks to prevent fish losses.
- A reserve of water was made available for release down the Trinity River during the summer of 2003 in case it was needed to prevent a reoccurrence of conditions that led to fish mortalities in the Klamath River the previous year.
- The Department, the States of Nebraska, Wyoming, and Colorado, along with Nebraska water users, continue to work on a Cooperative Recovery Program for Platte River endangered species. The Department funded a review by the National Academy of Sciences (NAS) of the science and conclusions which underpin the need for a recovery program for the four threatened and endangered species that use the Platte River. An expedited schedule of review by NAS was negotiated so it will not delay a Record of Decision on the Platte EIS by the end of calendar year 2004.
- On May 19, 2003, the U.S. Supreme Court approved the Kansas v. Nebraska settlement which was filed with the Special Master December 16, 2002. While Reclamation was not a party to the suit, it was assigned by the court as *amicus curiae* (friend of the court) and was a full partner in helping successfully negotiate the settlement.
- Reclamation signed a Memorandum of Understanding with the San Diego River Park Foundation and the City of San Diego for Phase I of the San Diego River Restoration Project. This project, to which Reclamation is contributing \$500,000, will upgrade natural riparian habitat, improve water quality and enhance recreational opportunities along the river. It also may enhance groundwater quality and improve water quality for downstream recreational users and others.

- Reclamation began the Los Angeles Basin County Watershed Study, which will help determine the practicability of recharging urban stormwater runoff; develop a stakeholder-supported strategy to identify locations for projects to recharge water throughout the basin; develop tools that will help decision-makers determine where, when and how to recharge urban runoff; and develop cost-sharing agreements among agencies benefiting from the project.
- Reclamation and Fish and Wildlife Service formulated a plan for river management on the Pecos, resulting in a non-jeopardy opinion for the threatened Pecos bluntnose shiner.
- A fish passage was constructed in the Public Service Company of New Mexico diversion dam on the San Juan River. The passage re-linked critical habitat in the upper San Juan River basin. The passage was an immediate success: endangered fish and other native fish species began using the facility within the first month of operation. This effort was made possible through the cooperation of the Navajo Nation, Public Service Company of New Mexico, and the San Juan River Recovery Implementation Program.

Reclamation continues to work with partners through habitat joint ventures conducted under programs such as the North American Waterfowl Management Plan including:

- Working with the Yakama Nation to restore wetlands on the Yakama Reservation;
- Partnering with Ducks Unlimited, the Washington State Department of Fish and Wildlife, and the Intermountain West Joint Venture to create and enhance wetlands along the Winchester Wasteway in the Columbia Basin; and
- Participating in a joint venture with the U.S. Fish and Wildlife Service and Ducks Unlimited to create a brood marsh at the Hansen Waterfowl Management Area as part of the Prairie Potholes Joint Venture in North Dakota.

Aquatic invasive species clog canals and waterways, causing widespread water delivery problems. Salt Cedar (Tamarisk) is a particularly harmful invasive plant. In 2003, Reclamation started an aggressive salt cedar control program, the largest and most successful eradication program in New Mexico, along the Pecos River. The Department is also co-sponsoring a Tamarisk Workshop in Albuquerque, NM later this month. Senator Domenici, Senator Campbell, Senator Bingaman and other members of the Senate are to be commended for their legislative efforts to address this problem.

Reclamation continues to work under the Reclamation States Drought Relief Act of 1991 to respond to drought conditions in Western States. During FY 2003, Reclamation:

- Allowed storage of non-project water in Reclamation facilities.
- Provided emergency assistance for Indian and non-Indian domestic water supplies in Montana, New Mexico and Arizona.

- Purchased water for endangered species requirements under the Endangered Species Act, thus allowing deliveries to continue to contractors.

Reclamation operates and maintains 58 hydroelectric powerplants that provide about 10 percent of the electric power in the Western United States. Reclamation plants generate nearly \$1 billion in power revenues annually and lead the hydropower industry with low costs and high reliability.

Many of Reclamation's projects are home to recreation opportunities. Visitors to Reclamation lakes and facilities contribute about \$6 billion a year to local and regional economies and provide some 27,000 non-Federal jobs. Reclamation continues to work with other Federal land management agencies, state, county, and local partners to develop, manage and cost-share recreation projects.

The Department also contributes to resolution of drought and water supply issues in the west through the scientific work of the USGS. Examples of this include the recently completed Middle Rio Grande ground water study, the southwest ground water initiative (which has significantly advanced capabilities to estimate ground water recharge), improved real-time coverage of surface-water and ground-water conditions (through Waterwatch and Groundwater Watch), the recently completed study of the impact of irrigation in the Methow Valley of Washington, new hydrologic and river systems models of the Yakima basin in conjunction with the Bureau of Reclamation, and scientific leadership of the upper San Pedro River partnership in southern Arizona.

Thank you for the opportunity to address the Committee today. I will be happy to answer any questions that you may have.